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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/724,336	11/28/2000	Kingsum Chow	42390P9919	7224

8791 7590 09/22/2005

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EXAMINER	
REILLY, SEAN M	
ART UNIT	**PAPER NUMBER**
2153	

DATE MAILED: 09/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/724,336	CHOW ET AL.	
	Examiner	Art Unit	
	Sean Reilly	2153	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 June 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23,26-28 and 31* is/are rejected.

7)☒ Claim(s) *24,25,29 and 30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

This Office action is in response to Applicant's amendment and request for reconsideration filed on 6/28/2005. Claims 1-31 are presented for further examination.

Priority

1. No claim for priority was made.

2. The effective filing date for the subject matter defined in the pending claims in this application is 11/28/2000.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-5, 8, 10, 12-15, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson (U.S. Patent No. 6,223,209) and Farber et al. (U.S. Patent No. 6,415,280, hereinafter "Farber").

In considering claim 1, Watson discloses a method for locating an efficient server among servers mirroring a network site (col. 2, lines 52-59, "mirror server sites"), comprising:

Receiving by a first server ("server 1," also called the "primary server") an incoming connection from a client ("client 2" or "client 3") in communication with said servers over a network (col. 2, lines 45-47; col. 3, 41-44);

Providing a first efficiency rating ("least number of router hops or the highest bandwidth path," col. 3, lines 66-67) for communication between the first server and the client, and providing a second efficiency rating for communication between a second server and the client (col. 3, lines 64-67, "primary server determines which satellite server is closest to the client"; col. 4, lines 4-8, wherein one method of determining the closest server includes "maintain[ing] a table of catalogue or client addresses together with an identification of the primary or satellite server closest to each client entry in the table". Thus, the primary server measures its own efficiency and the second server efficiency to determine which server to subsequently connect to); and

Directing the client to subsequently communicate with the second server when the second efficiency rating is better than the fist efficiency rating (col. 4, lines 1-3, wherein a home page is returned to the client with links to the second server, which links thereby direct the client to subsequently communicate with the second server).

However, Watson does not disclose that the second efficiency rating could be based in part on a predicted reliability rating associated with the second server. Nonetheless, the feature of selecting servers based in part on predicted reliability ratings for server-connection systems was well known in the art, as evidenced by Farber.

Watson does not discuss using reliability to select the servers. Instead, Watson focuses on using some measure of distance or bandwidth to select the server. Nonetheless, Watson does so for the purpose of increasing reliability of the system (col. 4, lines 48-49, describing that the system improves "response time, performance, and reliability"). Furthermore it was well known as evidenced by Farber that in mirrored server systems for client requests, the server selected

could be chosen based on a combination of bandwidth, cost, and reliability (col. 40, claims 10, 15, 16, "resolving the request for the particular data file based on a measure of availability of at least one of the servers... wherein the measure of availability is based on one or more of: [bandwidth to the server, cost of a connection to the server, and predicted reliability of a connection to the server]"). It is noted that the reliability of a server is itself a predicted reliability of the server. Thus, given this knowledge, a person having ordinary skill in the art would have readily recognized the desirability and advantages of selecting the servers taught by Watson according to cost and/or reliability in addition to bandwidth, as a way of further increasing reliability and performance of the system (as suggested by Watson, col. 4, lines 48-49). Therefore, it would have been obvious to include the reliability of the servers as part of the efficiency rating in the system taught by Watson.

In considering claim 2, Watson further discloses that providing the efficiency rating comprises either measuring the efficiency between the first server and the client (col. 4, lines 12-24, using a technique similar to a "traceroute" approach upon receipt of a client request), or looking up a previously measured communication efficiency between the first server and the client (col. 4, lines 4-11, "maintain a table or catalogue of client addresses together with an identification of the primary or satellite server closest to each client entry in the table").

In considering claim 3, Watson further discloses that directing comprises returning a network resource ("home page") to the client containing at least one reference therein to the second server ("primary or home server, www.xyz.com, then returns a home page with

subsequent links pointing to appropriately selected satellite server, e.g. www.xyz2.com," col. 4, lines 1-3).

In considering claim 4, Watson further discloses that the reference comprises a web page element ("link") linking to the second server such that activation thereof by the client causes the client to contact the second server (col. 4, lines 1-3, "primary or home server, www.xyz.com, then returns a home page with subsequent links pointing to appropriately selected satellite server, e.g. www.xyz2.com," col. 4, lines 2-3).

In considering claim 5, Watson further discloses that the network resource received from the first server comprises a tag based structure having embedded identifiers specifying resources located on the network (i.e. a home page with links, col. 4, lines 1-3), wherein at least one reference is an embedded identifier specifying a network resource of the second server (i.e. "links pointing to appropriately selected satellite server, e.g., www.xyz2.com").

In considering claim 8, Watson further discloses storing efficiency ratings for communication with the client on a storage device (col. 4, lines 5-11, wherein the "table" is necessarily stored on a storage device); and retrieving at least one of the stored efficiency ratings from said second server over a communication channel different from the network (col. 4, lines 12-24, describing contacting the second server via "traceroute" to determine the most efficient server; col. 25-37, wherein the different servers reside at different "disjoint" networks).

In considering claim 10, Watson further discloses that the connection from the client is generated by a browser ("browser," col. 3, line 58), and wherein the efficiency rating measures efficiency of delivering web page resources to the client (i.e. which page server, www.xyz.com, www.xyz2.com, etc. has the highest bandwidth path, col. 3, lines 62-67).

Regarding claim 12, the claim performs the same method steps described in claims 1 and 2 combined. Therefore, claim 12 is rejected for the same reasons given regarding claims 1 and 2.

In considering claim 13, claim 13 presents instructions for performing the same steps as claim 3, and is thus rejected for the same reason as claim 3 (see col. 4, lines 1-3).

In considering claims 14, 15, and 20, claims 14, 15, and 20 present an article for performing the same steps as claims 4, 5, and 10 respectively and are thus rejected for the same reasons.

2. Claims 7, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson and Farber, in view of Freeman et al. (U.S. Patent No. 6,922,724, hereinafter "Freeman").

In considering claims 7 and 17, although the system taught by Watson and Farber discloses substantial features of the invention, it fails to disclose that each of the servers stores efficiency ratings on a commonly accessible storage device. Instead, the combined Watson and Farber system disclosed storing a table with such information (Watson Col 4, lines 6-9) however

both Watson and Faber are silent as to where such as table is stored. Nevertheless it was well known in the art at the time of the invention to store data on a commonly accessible storage device such that a group of servers can access the data, as evidenced by Freeman. In an analogous art, Freeman disclosed a commonly accessible storage device for storing server information needed by a group of servers (see either persistent or dynamic stores, Freeman sections 2.1 and 2.2 in Columns 5 and 6). Thus, it would have been obvious to store the efficiency ratings in the combined Watson and Farber system on a commonly accessible storage device as disclosed by Freeman, so that the data is accessible to all servers (Col 6, lines 33-37).

In considering claim 18, Freeman further discloses storing efficiency ratings for communication with the client on a storage device (e.g. dynamic store, Col 6, lines 31-37); and retrieving at least one of the stored efficiency ratings from said second server over a communication channel different from the network (communication with the dynamic store over the farm management interface, Figure 2 and Col 5, lines 52-62).

3. Claims 11, 21-23, 26-28, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson and Farber, in view of Logan et al. (U.S. Patent No. 6,578,066, hereinafter "Logan").

In considering claim 22, Watson discloses a method comprising:

Determining a first server on a network (col. 3, lines 51-60, wherein a DNS server will inherently resolve the URL "www.xyz.com" to determine the IP address of the home server, as described above with regard to claim 11);

Determining a first efficiency rating ("least number or router hops or the highest bandwidth path," col. 3, lines 66-67) for communication between the client and the first server, and determining a second efficiency rating for communication between the client and a second server (col. 3, lines 64-67, "primary server determines which satellite server is closest to the client"; col. 4, lines 4-8, wherein one method of determining the closest server includes "maintain[ing] a table of catalogue or client addresses together with an identification of the primary or satellite server closest to each client entry in the table" (emphasis added); and

Evaluating whether the second efficiency rating exceeds the first efficiency rating, and if so, then providing a web page of the first server which contains content link to the second server (col. 3, line 65 – col. 4, line 3, "primary or home server, www.xyz.com, then returns a home page with subsequent links pointing to appropriately selected satellite server, e.g. www.xyz2.com.").

However, Watson does not disclose (1) the second efficiency rating is based in part on a predicted reliability rating associated with the second server, and (2) determining the first server being geographically closer to a client than the second server. Nonetheless, for the reasons stated previously with regard to claim 1, feature (1) would have been obvious to add to Watson, in view of Farber. In addition, feature (2) – i.e. determining a first server being geographically closer to a client than the second server – is well known in the mirrored server art, as evidenced by Logan.

In a similar art, Logan discloses a mirrored server system wherein a head server, or "switch server" selects which mirrored server in a site should respond to a client's request based on a combination of the health of the server, geographical location, response times, and

throughputs (col. 5, lines 11-17; col. 10, lines 6-13, "it is therefore important for a switch to weigh-in to the final decision the geographic source of a user request"). In examining geographic location, Logan thus determines which server is geographically closest to the client. Given this teaching, a person having ordinary skill in the art would have readily recognized the desirability and advantages of adding this geographic determination taught by Logan as an additional criteria for deciding on which server to select in the combined system of Watson, Farber, and Cherkasova, to further increase efficiency and decrease delays to requests on the system (see Logan, col. 9, line 54 – col. 10, line 5, describing that "having a user in Japan come all the way to the Atlanta site for content would waste bandwidth... [and] would directly result in unnecessary response delays to the Japanese user"). Therefore, it would have been obvious to add the geographic determination taught by Logan into the server selection system taught by Watson and Farber.

In considering claim 23, Watson and Farber disclosed determining said first efficiency rating (Watson, "least number or router hops or the highest bandwidth path," col. 3, lines 66-67) of the first server, based at least in part on first contacting by the client of the first server (Watson, client connects Col 3, lines 58-59); and

Determining the second efficiency rating of the second server, based at least on part on second contacting by the first server of the second server (measurement of reliability from the first server, Farber col. 40, claims 10, 15, 16).

In considering claim 26, Watson further discloses that if the second efficiency rating exceeds the first efficiency rating, then receiving a web page ("home page") from the first server with all web links directed towards the second server, and if the first efficiency rating exceeds the second efficiency rating, then receiving the web page from the first server with all web links directed towards the first server (col. 4, lines 1-9, "returns a home page with subsequent links point to appropriately selected satellite server," wherein the satellite server selected is the "primary or satellite server closest to each client entry in the table.").

In considering claim 27, claim 27 further presents an article having a processor and a storage medium having instructions for performing the same steps as claim 22. Therefore, claim 27 is rejected for the same reasons as claim 22.

In considering claim 28, claim 28 presents the same ambiguities as claim 23, and further presents instructions for performing the same steps as claim 23. Therefore, claim 28 is rejected for the same reasons as claim 23.

In considering claim 31, claim 31 presents instructions for performing the same steps as claim 26, and is thus rejected for the same reasons as claim 26.

In considering claim 11, the combined system of Watson, Farber, and Logan further discloses contacting the first server in accordance with its being geographically closest to the client (i.e. in some cases, the server selection will result in the closest geographical server to be

selected), and contacting the second server in accordance with the second server having the higher efficiency rating notwithstanding the first server being geographically closest to the client (i.e. in others, even if the first server is closer geographically, it will still contact the second server if it is overloaded – see Logan, col. 9, lines 60-62, "generally it is preferably best if users within a region are associated with servers in or near that region, unless the nearby server is down or overloaded"). Logan further discloses contacting a resolution service to determine which server has a closest geographical proximity to the client (Logan, col. 10, lines 13-51).

In considering claim 21, claim 21 presents substantially the same limitation as claim 11. Note that claim 21 further elaborates that a "network site identifier" is provided to the resolution service. This feature is further taught by Logan (col. 10, lines 37-51, "domain name").

4. Claims 6, 9, 16, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watson, and Farber, in view of Emens et al. (U.S. Patent No. 6,606,643, hereinafter "Emens").

In considering claim 6, Watson discloses a method of dynamically selecting a closest server to the client (col. 4, lines 12-24). However, Watson does not disclose that the dynamic method includes returning a network resource to the client such that the resource causes the client to contact the second server so that the second server can measure a second efficiency rating for client communication, and retrieving the second efficiency rating. Nonetheless, this sort of dynamic response-time detection method for determining communication efficiency is well known, as evidenced by Emens.

In a similar art, Emens discloses a system for selecting from among a group of mirrored servers to communicate with a requesting client (col. 7, lines 57-62), wherein a first server returns a network resource to the client (col. 8, lines 20-23, "the host server 12 returns the requested web content, but also returns a list of mirror server addresses with the web content"), configures the network resource to cause the client to contact the second server so that the second server can measure a second efficiency rating for communication with the client (col. 8, lines 25-40, wherein each applet from the client "makes an identical HTTP mirror server request to its corresponding mirror server... [and] measures the round trip latency"), and retrieves the second efficiency rating (col. 8, lines 38-40, "round trip times are compared between applets and a 'winner applet' having the lowest time is identified.").

Thus, the claimed method of determining an efficiency rating of a second mirrored server in a mirrored server system is well known. A person having ordinary skill in the art would have readily recognized the desirability and advantages of using the well-known method taught by Emens in the system taught by Watson, Farber, and Cherkasova, so that the system could select a current, most efficient mirrored server, rather than relying on a potentially dated efficiency table. Thus, it would have been obvious to include the efficiency rating mechanism taught by Emens in the system taught by Watson, Farber, and Cherkasova.

In considering claim 9, the combined system of Watson and Emens as discussed with regard to claim 6, discloses providing the efficiency rating by determining an end-user delay (i.e. "round trip latency") between the client's request for network resources to a server, and a client's receipt of the resource from the server (Emens, col. 8, lines 20-40, wherein the client makes

HTTP requests to each of the mirrored servers, receives responses, and then measures the latency between each communication). It would have been obvious to a person having ordinary skill in the art to include this feature in the system taught by Watson, Farber, and Cherkasova, so that the system could select a current, most efficient mirrored server, rather than relying on a potentially dated efficiency table.

In considering claim 16, claim 16 presents an article for performing the same method taught in claim 6. Therefore, claim 16 is rejected for the same reasons as claim 6.

In considering claim 19, claim 19 recites an apparatus for performing the method of claim 9, and is thus rejected for the same reasons as claim 9.

Allowable Subject Matter

Claims 24, 25, 29, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

In response to Applicant's request for reconsideration filed on 6/28/2005, the following factual arguments are noted:

a. Applicant's specification has 112 1st support for determining efficiency based at least in part on a predicted reliability.

b. The combination of Watson, Farber and Cherkasova failed to teach among other limitations *determining efficiency based at leas in part on a predicted reliability.*

c. O'Neil does not teach *a common accessible storage device.*

d. Watson doses not teach a using a *communication channel different from the network.*

In considering (a), Examiner agrees with Applicant's argument. It is however noted that Applicant **failed** to further describe predicted reliability anywhere in the specification other than on pg 7 where Applicant merely states "efficiency ratings factor in past and/or predicted reliability of a host."

In considering (b), Examiner respectfully disagrees with Applicant's argument. The Cherkasova reference has been withdrawn since Farber clearly disclosed determining the reliability of a server in combination with other factors for determining a server that a client should subsequently communicate with (see inter alia, the Abstract of Farber). It is noted that the current reliably of a server is a predicted reliability of a server. This interpretation is within the broadest reasonable interpretation of *predicted reliability.* Applicant is free to further limit the term predicted reliability in the claims however, it noted that support for any such limitation does not exist in the specification. Further the Applicant is advised that the term predicted reliability is so broad that the load of a server may be interpreted as predicted reliability of the server (i.e. an overloaded server will not be a reliable). Thus, any load balancing system which accounts for server load would read on Applicant's claimed invention.

In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In considering (c) and (d), Examiner agrees with Applicant and accordingly a new art rejection is set forth.

Conclusion

3. The prior art made of record, in PTO-892 form, and not relied upon is considered pertinent to applicant's disclosure.

4. This office action is made **NON-FINAL.**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Reilly whose telephone number is 571-272-4228. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glen Burgess can be reached on 571-272-3949. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

9/13/2005

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